



## SEQUENCE LISTING

Zhou, Ming-Ming  
Aggarwal, Aneel

&lt;120&gt; Methods of Identifying Modulators of Bromodomains

&lt;130&gt; 2459-1-003

&lt;140&gt; 09510314

&lt;141&gt; 2008-03-19

&lt;150&gt; 09/510,314

&lt;151&gt; 2000-02-22

&lt;160&gt; 44

&lt;170&gt; PatentIn version 3.0

&lt;210&gt; 1

&lt;211&gt; 3014

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

ggggccgcgt	cgacgcggaa	aagaggccgt	ggggggcctc	ccagcgctgg	cagacaccgt	60
gaggctggca	gccgccggca	cgcacaccta	gtccgcagtc	ccgaggaaca	tgtccgcagc	120
cagggcgcg	agcagagtc	cgggcaggag	aaccaaggga	gggcgtgtgc	tgtggcggcg	180
gcggcagcgg	cagcggagcc	gctagtcccc	tccctcctgg	gggagcagct	gccgccgctg	240
ccgccgccc	caccaccatc	agcgcgcggg	gcccggccag	agcgagccgg	gcgagcggcg	300
cgctaggggg	agggcggggg	cggggagggg	ggtgggcgaa	gggggcggga	gggcgtgggg	360
ggagggtctc	gctctcccga	ctaccagagc	ccgagggaga	ccctggcggc	ggcggcggcg	420
cctgacactc	ggcgcctcct	gccgtgtctc	ggggcgccat	gtccgaggct	ggcggggccg	480
ggccggggcg	ctgcggggca	ggagccgggg	cagggggccg	gcccggggcg	ctgccccgc	540
agcctgcggc	gcttccgccc	gcgccccgc	agggctcccc	ctgcgcgcgt	gccgccgggg	600
gctcggggcg	ctgcgggtcc	gcgacggcag	tggctgcagc	gggcacggcc	gaaggaccgg	660
gaggcggtgg	ctcggcccga	atcgccgtga	agaaagcgca	actacgctcc	gtcgcgcggg	720
ccaagaaact	ggagaaaact	ggagtgtact	ccgcctgcaa	ggccgaggag	tcttgtaa	780
gtaattggctg	gaaaaaacct	aacccctcac	ccactcccc	cagagccgac	ctgcagcaaa	840
taattgtcag	tctaacagaa	tcctgtcgga	gtttagacca	tgccctagct	gctcatgttt	900
cccacctgga	gaatgtgtca	gaggaagaaa	tgaacagact	cctgggaata	gtattggatg	960
tggaaatatct	ctttacctgt	gtccacaagg	aagaagatgc	agataccaaa	caagtttatt	1020
tctatctatt	taagctcttg	agaaagtcta	ttttacaaaag	aggaaaacct	gtggttgaag	1080
gctcttttga	aaagaaaacc	ccatttgaaa	aacctagcat	tgaacagggt	gtgaataact	1140
ttgtgcagta	caaatttagt	cacctgccag	caaaagaaaag	gcaaacaata	gttgagttgg	1200
caaaaatggt	cctaaaccgc	atcaactatt	ggcatctgga	ggcaccatct	caacgaagac	1260
tgcgatctcc	caatgatgat	atttctggat	acaaagagaa	ctacacaagg	tggctgtgtt	1320
actgcaacgt	gccacagttc	tgcgacagtc	tacctcggtg	cgaaaccaca	cagggtgtttg	1380
ggagaacatt	gcttcgctcg	gtcttctactg	ttatgaggcg	acaactcctg	gaacaagcaa	1440
gacaggaaaa	agataaaactg	cctcttgaaa	aacgaactct	aatcctcact	catttcccaa	1500
aatttctgtc	catgctagaa	gaagaagtat	atagtcaaaa	ctctcccatc	tgggatcagg	1560
attttctctc	agcctcttcc	agaaccagcc	agctaggcat	ccaaacagtt	atcaatccac	1620
ctcctgtggc	tgggacaatt	tcatacaatt	caacctcatc	ttcccttgag	cagccaaacg	1680
cagggagcag	cagtcctgcc	tgcaaaagcct	cttctggact	tgaggcaaac	ccaggagaaa	1740
agaggaaaa	gactgattct	catgttctgg	aggaggccaa	gaaaccccga	gttatggggg	1800
atattccgat	ggaattaatc	aacgaggtta	tgtctaccat	cacggaccct	gcagcaatgc	1860
ttggaccaga	gaccaatttt	ctgtcagcac	actcgccag	ggatgaggcg	gcaaggtttg	1920
aagagcgcag	gggtgtaatt	gaatttcacg	tggttggcaa	ttccctcaac	cagaaaccaa	1980
acaagaagat	cctgatgtgg	ctggttggcc	tacagaacgt	tttctccac	cagctgcccc	2040
gaatgccaaa	agaatacatc	acacggctcg	tctttgacct	gaaacacaaa	acccttgctt	2100
taattaaaga	tggccgtgtt	attggtggta	tctgtttccg	tatgttccca	tctcaaggat	2160

tcacagagat	tgtcttctgt	gctgtaacct	caaatagagca	agtcaagggc	tatggaacac	2220
acctgatgaa	tcattttgaaa	gaatatcaca	taaagcatga	catcctgaac	ttcctcacat	2280
atgcagatga	atatgcaatt	ggatacttta	agaaacaggg	tttctccaaa	gaaattaaaa	2340
tacctaaaaac	caaatatgtt	ggctatatca	aggattatga	aggagccact	ttaatgggat	2400
gtgagctaaa	tccacggatc	ccgtacacag	aattttctgt	catcattaaa	aagcagaagg	2460
agataattaa	aaaactgatt	gaaagaaaac	aggcacaaat	tcgaaaagtt	taccctggac	2520
tttcatgttt	taaagatgga	gttcgacaga	ttcctataga	aagcattcct	ggaattagag	2580
agacaggctg	gaaaccgagt	ggaaaagaga	aaagtaaaga	gcccagagac	cctgaccagc	2640
tttacagcac	gctcaagagc	atcctccagc	aggtgaagag	ccatcaaagc	gcttggccct	2700
tcattggaac	tgtgaagaga	acagaagctc	caggatatta	tgaagttata	aggttcccca	2760
tggatctgaa	aaccatgagt	gaacgcctca	agaataggta	ctacgtgtct	aagaaattat	2820
tcattggcaga	cttacagcga	gtctttacca	attgcaaaga	gtacaacgcc	gctgagagt	2880
aatactacaa	atgtgccaat	atcctggaga	aattcttctt	cagtaaaatt	aaggaagctg	2940
gattaattga	caagtgattt	tttttcccc	tctgcttctt	agaaactcac	caagcagtgt	3000
gcctaaagca	aggt					3014

<210> 2  
 <211> 832  
 <212> PRT  
 <213> Homo sapiens

<400> 2

Met	Ser	Glu	Ala	Gly	Gly	Ala	Gly	Pro	Gly	Gly	Cys	Gly	Ala	Gly	Ala
1			5					10					15		
Gly	Ala	Gly	Ala	Gly	Pro	Gly	Ala	Leu	Pro	Pro	Gln	Pro	Ala	Ala	Leu
			20					25					30		
Pro	Pro	Ala	Pro	Pro	Gln	Gly	Ser	Pro	Cys	Ala	Ala	Ala	Ala	Gly	Gly
		35					40					45			
Ser	Gly	Ala	Cys	Gly	Pro	Ala	Thr	Ala	Val	Ala	Ala	Ala	Gly	Thr	Ala
	50					55				60					
Glu	Gly	Pro	Gly	Gly	Gly	Gly	Ser	Ala	Arg	Ile	Ala	Val	Lys	Lys	Ala
65					70					75					80
Gln	Leu	Arg	Ser	Ala	Pro	Arg	Ala	Lys	Lys	Leu	Glu	Lys	Leu	Gly	Val
			85						90					95	
Tyr	Ser	Ala	Cys	Lys	Ala	Glu	Glu	Ser	Cys	Lys	Cys	Asn	Gly	Trp	Lys
			100					105					110		
Asn	Pro	Asn	Pro	Ser	Pro	Thr	Pro	Pro	Arg	Ala	Asp	Leu	Gln	Gln	Ile
		115					120					125			
Ile	Val	Ser	Leu	Thr	Glu	Ser	Cys	Arg	Ser	Cys	Ser	His	Ala	Leu	Ala
	130					135					140				
Ala	His	Val	Ser	His	Leu	Glu	Asn	Val	Ser	Glu	Glu	Glu	Met	Asn	Arg
145					150				155						160
Leu	Leu	Gly	Ile	Val	Leu	Asp	Val	Glu	Tyr	Leu	Phe	Thr	Cys	Val	His
			165					170						175	
Lys	Glu	Glu	Asp	Ala	Asp	Thr	Lys	Gln	Val	Tyr	Phe	Tyr	Leu	Phe	Lys
			180					185					190		
Leu	Leu	Arg	Lys	Ser	Ile	Leu	Gln	Arg	Gly	Lys	Pro	Val	Val	Glu	Gly
		195					200					205			

Ser	Leu	Glu	Lys	Lys	Pro	Pro	Phe	Glu	Lys	Pro	Ser	Ile	Glu	Gln	Gly
210						215					220				
Val	Asn	Asn	Phe	Val	Gln	Tyr	Lys	Phe	Ser	His	Leu	Pro	Ala	Lys	Glu
225					230					235					240
Arg	Gln	Thr	Ile	Val	Glu	Leu	Ala	Lys	Met	Phe	Leu	Asn	Arg	Ile	Asn
				245					250					255	
Tyr	Trp	His	Leu	Glu	Ala	Pro	Ser	Gln	Arg	Arg	Leu	Arg	Ser	Pro	Asn
			260					265					270		
Asp	Asp	Ile	Ser	Gly	Tyr	Lys	Glu	Asn	Tyr	Thr	Arg	Trp	Leu	Cys	Tyr
		275					280					285			
Cys	Asn	Val	Pro	Gln	Phe	Cys	Asp	Ser	Leu	Pro	Arg	Tyr	Glu	Thr	Thr
	290					295					300				
Gln	Val	Phe	Gly	Arg	Thr	Leu	Leu	Arg	Ser	Val	Phe	Thr	Val	Met	Arg
305					310					315					320
Arg	Gln	Leu	Leu	Glu	Gln	Ala	Arg	Gln	Glu	Lys	Asp	Lys	Leu	Pro	Leu
				325					330					335	
Glu	Lys	Arg	Thr	Leu	Ile	Leu	Thr	His	Phe	Pro	Lys	Phe	Leu	Ser	Met
			340					345					350		
Leu	Glu	Glu	Glu	Val	Tyr	Ser	Gln	Asn	Ser	Pro	Ile	Trp	Asp	Gln	Asp
		355					360					365			
Phe	Leu	Ser	Ala	Ser	Ser	Arg	Thr	Ser	Gln	Leu	Gly	Ile	Gln	Thr	Val
	370					375					380				
Ile	Asn	Pro	Pro	Pro	Val	Ala	Gly	Thr	Ile	Ser	Tyr	Asn	Ser	Thr	Ser
385					390					395					400
Ser	Ser	Leu	Glu	Gln	Pro	Asn	Ala	Gly	Ser	Ser	Ser	Pro	Ala	Cys	Lys
				405					410					415	
Ala	Ser	Ser	Gly	Leu	Glu	Ala	Asn	Pro	Gly	Glu	Lys	Arg	Lys	Met	Thr
			420					425					430		
Asp	Ser	His	Val	Leu	Glu	Glu	Ala	Lys	Lys	Pro	Arg	Val	Met	Gly	Asp
		435					440					445			
Ile	Pro	Met	Glu	Leu	Ile	Asn	Glu	Val	Met	Ser	Thr	Ile	Thr	Asp	Pro
	450					455					460				
Ala	Ala	Met	Leu	Gly	Pro	Glu	Thr	Asn	Phe	Leu	Ser	Ala	His	Ser	Ala
465					470					475					480
Arg	Asp	Glu	Ala	Ala	Arg	Leu	Glu	Glu	Arg	Arg	Gly	Val	Ile	Glu	Phe
				485					490					495	
His	Val	Val	Gly	Asn	Ser	Leu	Asn	Gln	Lys	Pro	Asn	Lys	Lys	Ile	Leu
			500					505					510		
Met	Trp	Leu	Val	Gly	Leu	Gln	Asn	Val	Phe	Ser	His	Gln	Leu	Pro	Arg
		515					520					525			

Met Pro Lys Glu Tyr Ile Thr Arg Leu Val Phe Asp Pro Lys His Lys  
 530 535 540  
 Thr Leu Ala Leu Ile Lys Asp Gly Arg Val Ile Gly Gly Ile Cys Phe  
 545 550 555 560  
 Arg Met Phe Pro Ser Gln Gly Phe Thr Glu Ile Val Phe Cys Ala Val  
 565 570 575  
 Thr Ser Asn Glu Gln Val Lys Gly Tyr Gly Thr His Leu Met Asn His  
 580 585 590  
 Leu Lys Glu Tyr His Ile Lys His Asp Ile Leu Asn Phe Leu Thr Tyr  
 595 600 605  
 Ala Asp Glu Tyr Ala Ile Gly Tyr Phe Lys Lys Gln Gly Phe Ser Lys  
 610 615 620  
 Glu Ile Lys Ile Pro Lys Thr Lys Tyr Val Gly Tyr Ile Lys Asp Tyr  
 625 630 635 640  
 Glu Gly Ala Thr Leu Met Gly Cys Glu Leu Asn Pro Arg Ile Pro Tyr  
 645 650 655  
 Thr Glu Phe Ser Val Ile Ile Lys Lys Gln Lys Glu Ile Ile Lys Lys  
 660 665 670  
 Leu Ile Glu Arg Lys Gln Ala Gln Ile Arg Lys Val Tyr Pro Gly Leu  
 675 680 685  
 Ser Cys Phe Lys Asp Gly Val Arg Gln Ile Pro Ile Glu Ser Ile Pro  
 690 695 700  
 Gly Ile Arg Glu Thr Gly Trp Lys Pro Ser Gly Lys Glu Lys Ser Lys  
 705 710 715 720  
 Glu Pro Arg Asp Pro Asp Gln Leu Tyr Ser Thr Leu Lys Ser Ile Leu  
 725 730 735  
 Gln Gln Val Lys Ser His Gln Ser Ala Trp Pro Phe Met Glu Pro Val  
 740 745 750  
 Lys Arg Thr Glu Ala Pro Gly Tyr Tyr Glu Val Ile Arg Phe Pro Met  
 755 760 765  
 Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn Arg Tyr Tyr Val Ser  
 770 775 780  
 Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val Phe Thr Asn Cys Lys  
 785 790 795 800  
 Glu Tyr Asn Ala Ala Glu Ser Glu Tyr Tyr Lys Cys Ala Asn Ile Leu  
 805 810 815  
 Glu Lys Phe Phe Phe Ser Lys Ile Lys Glu Ala Gly Leu Ile Asp Lys  
 820 825 830

<210> 3  
 <211> 16

<212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic bromodomain peptide

<220>  
 <221> Xaa  
 <222> (2)..(4)  
 <223> Xaa is a maximum of three amino acids. Each of these can be any amino acid. One may be missing.

<220>  
 <221> Xaa  
 <222> (4)..(11)  
 <223> Xaa is a maximum of eight amino acids. Each of these can be any amino acid. One, two, or three may be missing.

<220>  
 <221> Xaa  
 <222> (5)..(5)  
 <223> Xaa is a single amino acid that is either Pro, Lys, or His.

<220>  
 <221> Xaa  
 <222> (6)..(6)  
 <223> Xaa is any single amino acid.

<220>  
 <221> Xaa  
 <222> (8)..(8)  
 <223> Xaa is a single amino acid that can be either Tyr, Phe, or His.

<220>  
 <221> Xaa  
 <222> (9)..(13)  
 <223> Xaa is 5 amino acids. Each of these can be any amino acid.

<220>  
 <221> Xaa  
 <222> (11)..(11)  
 <223> Xaa is a single amino acid that can be either Met, Ile, or Val.

<400> 3

Phe Xaa Pro Xaa Xaa Xaa Tyr Xaa Xaa Xaa Xaa Xaa Pro Xaa Asp  
 1 5 10 15

<210> 4  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> synthetic bromodomain peptide

<220>  
 <221> Xaa  
 <222> (6)..(6)  
 <223> Xaa represents an acetyl-lysine

<400> 4

Ile Ser Tyr Gly Arg Xaa Lys Arg Arg Gln Arg Arg  
 1 5 10

<210> 5  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic bromodomain peptide

<220>  
 <221> Xaa  
 <222> (8)..(8)  
 <223> Xaa represents an acetyl lysine.

<400> 5

Ala Arg Lys Ser Thr Gly Gly Xaa Ala Pro Arg Lys Gln Leu  
 1 5 10

<210> 6  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic bromodomain peptide

<220>  
 <221> Xaa  
 <222> (8)..(8)  
 <223> Xaa represents an acetyl lysine.

<400> 6

Gln Ser Thr Ser Arg His Lys Xaa Leu Met Phe Lys Thr Glu  
 1 5 10

<210> 7  
 <211> 110  
 <212> PRT  
 <213> Homo sapiens, bromodomain peptide

<400> 7

Ser Lys Glu Pro Arg Asp Pro Asp Gln Leu Tyr Ser Thr Leu Lys Ser  
 1 5 10 15

Ile Leu Gln Gln Val Lys Ser His Gln Ser Ala Trp Pro Phe Met Glu  
20 25 30

Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr Tyr Glu Val Ile Arg Ser  
35 40 45

Pro Met Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn Arg Tyr Tyr  
50 55 60

Val Ser Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val Phe Thr Asn  
65 70 75 80

Cys Lys Glu Tyr Asn Ala Pro Glu Ser Glu Tyr Tyr Lys Cys Ala Asn  
85 90 95

Ile Leu Glu Lys Phe Phe Phe Ser Lys Ile Lys Glu Ala Gly  
100 105 110

<210> 8  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 8

Gly Lys Glu Leu Lys Asp Pro Asp Gln Leu Tyr Thr Thr Leu Lys Asn  
1 5 10 15

Leu Leu Ala Gln Ile Lys Ser His Pro Ser Ala Trp Pro Phe Met Glu  
20 25 30

Pro Val Lys Lys Ser Glu Ala Pro Asp Tyr Tyr Glu Val Ile Arg Phe  
35 40 45

Pro Ile Asp Leu Lys Thr Met Thr Glu Arg Leu Arg Ser Arg Tyr Tyr  
50 55 60

Val Thr Arg Lys Leu Phe Val Ala Asp Leu Gln Arg Val Ile Ala Asn  
65 70 75 80

Cys Arg Glu Tyr Asn Pro Pro Asp Ser Glu Tyr Cys Arg Cys Ala Ser  
85 90 95

Ala Leu Glu Lys Phe Phe Tyr Phe Lys Leu Lys Glu Gly Gly  
100 105 110

<210> 9  
<211> 109  
<212> PRT  
<213> Tetrahymena thermophila

<400> 9

Leu Lys Lys Ser Lys Glu Arg Ser Phe Asn Leu Gln Cys Ala Asn Val  
1 5 10 15

Ile Glu Asn Met Lys Arg His Lys Gln Ser Trp Pro Phe Leu Asp Pro  
20 25 30

Val Asn Lys Asp Asp Val Pro Asp Tyr Tyr Asp Val Ile Thr Asp Pro  
35 40 45

Ile Asp Ile Lys Ala Ile Glu Lys Lys Leu Gln Asn Asn Gln Tyr Val  
50 55 60

Asp Lys Asp Gln Phe Ile Lys Asp Val Lys Arg Ile Phe Thr Asn Ala  
65 70 75 80

Lys Ile Tyr Asn Gln Pro Asp Thr Ile Tyr Tyr Lys Ala Ala Lys Glu  
85 90 95

Leu Glu Asp Phe Val Glu Pro Tyr Leu Thr Lys Leu Lys  
100 105

<210> 10  
<211> 109  
<212> PRT  
<213> *Saccharomyces cerevisiae*

<400> 10

Ala Gln Arg Pro Lys Arg Gly Pro His Asp Ala Ala Ile Gln Asn Ile  
1 5 10 15

Leu Thr Glu Leu Gln Asn His Ala Ala Ala Trp Pro Phe Leu Gln Pro  
20 25 30

Val Asn Lys Glu Glu Val Pro Asp Tyr Tyr Asp Phe Ile Lys Glu Pro  
35 40 45

Met Asp Leu Ser Thr Met Glu Ile Lys Leu Glu Ser Asn Lys Tyr Gln  
50 55 60

Lys Met Glu Asp Phe Ile Tyr Asp Ala Arg Leu Val Phe Asn Asn Cys  
65 70 75 80

Arg Met Tyr Asn Gly Glu Asn Thr Ser Tyr Tyr Lys Tyr Ala Asn Arg  
85 90 95

Leu Glu Lys Phe Phe Asn Asn Lys Val Lys Glu Ile Pro  
100 105

<210> 11  
<211> 112  
<212> PRT  
<213> *Homo sapiens*

<400> 11

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr  
1 5 10 15

Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln  
20 25 30

Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val  
35 40 45



Lys Ser Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly  
 50 55 60  
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Ile Trp Leu Met Phe  
 65 70 75 80  
 Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Tyr  
 85 90 95  
 Cys Ser Lys Leu Ser Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met  
 100 105 110

<210> 12  
 <211> 112  
 <212> PRT  
 <213> Homo sapiens

<400> 12

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr  
 1 5 10 15  
 Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln  
 20 25 30  
 Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val  
 35 40 45  
 Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly  
 50 55 60  
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Val Trp Leu Met Phe  
 65 70 75 80  
 Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Phe  
 85 90 95  
 Cys Ser Lys Leu Ala Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met  
 100 105 110

<210> 13  
 <211> 112  
 <212> PRT  
 <213> Mus musculus

<400> 13

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr  
 1 5 10 15  
 Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln  
 20 25 30  
 Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val  
 35 40 45  
 Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly  
 50 55 60

Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Val Arg Leu Met Phe  
65 70 75 80

Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Phe  
85 90 95

Cys Ser Lys Leu Ala Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met  
100 105 110

<210> 14

<211> 111

<212> PRT

<213> *Caenorhabditis elegans*

<400> 14

Asp Thr Val Phe Ser Gln Glu Asp Leu Ile Lys Phe Leu Leu Pro Val  
1 5 10 15

Trp Glu Lys Leu Asp Lys Ser Glu Asp Ala Ala Pro Phe Arg Val Pro  
20 25 30

Val Asp Ala Lys Leu Leu Asn Ile Pro Asp Tyr His Glu Ile Ile Lys  
35 40 45

Arg Pro Met Asp Leu Glu Thr Val His Lys Lys Leu Tyr Ala Gly Gln  
50 55 60

Tyr Gln Asn Ala Gly Gln Phe Cys Asp Asp Ile Trp Leu Met Leu Asp  
65 70 75 80

Asn Ala Trp Leu Tyr Asn Arg Lys Asn Ser Lys Val Tyr Lys Tyr Gly  
85 90 95

Leu Lys Leu Ser Glu Met Phe Val Ser Glu Met Asp Pro Val Met  
100 105 110

<210> 15

<211> 110

<212> PRT

<213> *Homo sapiens*

<400> 15

Arg Arg Arg Thr Asp Pro Met Val Thr Leu Ser Ser Ile Leu Glu Ser  
1 5 10 15

Ile Ile Asn Asp Met Arg Asp Leu Pro Asn Thr Tyr Pro Phe His Thr  
20 25 30

Pro Val Asn Ala Lys Val Val Lys Asp Tyr Tyr Lys Ile Ile Thr Arg  
35 40 45

Pro Met Asp Leu Gln Thr Leu Arg Glu Asn Val Arg Lys Arg Leu Tyr  
50 55 60

Pro Ser Arg Glu Glu Phe Arg Glu His Leu Glu Leu Ile Val Lys Asn  
65 70 75 80

Ser Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser Gln  
85 90 95

Ser Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu  
100 105 110

<210> 16  
<211> 110  
<212> PRT  
<213> Mesocricetus auratus

<400> 16

Arg Arg Arg Thr Asp Pro Met Val Thr Leu Ser Ser Ile Leu Glu Ser  
1 5 10 15

Ile Ile Asn Asp Met Arg Asp Leu Pro Asn Thr Tyr Pro Phe His Thr  
20 25 30

Pro Val Asn Ala Lys Val Val Lys Asp Tyr Tyr Lys Ile Ile Thr Arg  
35 40 45

Pro Met Asp Leu Gln Thr Leu Arg Glu Asn Val Arg Lys Arg Leu Tyr  
50 55 60

Pro Ser Arg Glu Glu Phe Arg Glu His Leu Glu Leu Ile Val Lys Asn  
65 70 75 80

Ser Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser Gln  
85 90 95

Ser Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu  
100 105 110

<210> 17  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 17

Leu Leu Asp Asp Asp Asp Gln Val Ala Phe Ser Phe Ile Leu Asp Asn  
1 5 10 15

Ile Val Thr Gln Lys Met Met Ala Val Pro Asp Ser Trp Pro Phe His  
20 25 30

His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val  
35 40 45

Asn Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys  
50 55 60

Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala  
65 70 75 80

Asn Ser Val Lys Tyr Asn Gly Pro Glu Ser Gln Tyr Thr Lys Thr Ala  
85 90 95

Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp  
100 105 110

<210> 18  
<211> 111  
<212> PRT  
<213> Mesocricetus auratus

<400> 18

Leu Leu Asp Asp Asp Asp Gln Val Ala Phe Ser Phe Ile Leu Asp Asn  
1 5 10 15  
Ile Val Thr Gln Lys Met Met Ala Val Pro Asp Ser Trp Pro Phe His  
20 25 30  
His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val  
35 40 45  
Ser Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys  
50 55 60  
Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala  
65 70 75 80  
Asn Ser Val Lys Tyr Asn Gly Ser Glu Ser Gln Tyr Thr Lys Thr Ala  
85 90 95  
Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp  
100 105 110

<210> 19  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 19

Lys Pro Gly Arg Val Thr Asn Gln Leu Gln Tyr Leu His Lys Val Val  
1 5 10 15  
Met Lys Ala Leu Trp Lys His Gln Phe Ala Trp Pro Phe Arg Gln Pro  
20 25 30  
Val Asp Ala Val Lys Leu Gly Leu Pro Asp Tyr His Lys Ile Ile Lys  
35 40 45  
Gln Pro Met Asp Met Gly Thr Ile Lys Arg Arg Leu Glu Asn Asn Tyr  
50 55 60  
Tyr Trp Ala Ala Ser Glu Cys Met Gln Asp Phe Asn Thr Met Phe Thr  
65 70 75 80  
Asn Cys Tyr Ile Tyr Asn Lys Pro Thr Asp Asp Ile Val Leu Met Ala  
85 90 95  
Gln Thr Leu Glu Lys Ile Phe Leu Gln Lys Val Ala Ser Met Pro  
100 105 110

<210> 20  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 20

Lys	Pro	Gly	Arg	Lys	Thr	Asn	Gln	Leu	Gln	Tyr	Met	Gln	Asn	Val	Val
1				5					10					15	
Val	Lys	Thr	Leu	Trp	Lys	His	Gln	Phe	Ala	Trp	Pro	Phe	Tyr	Gln	Pro
			20					25					30		
Val	Asp	Ala	Ile	Lys	Leu	Asn	Leu	Pro	Asp	Tyr	His	Lys	Ile	Ile	Lys
		35					40					45			
Asn	Pro	Met	Asp	Met	Gly	Thr	Ile	Lys	Lys	Arg	Leu	Glu	Asn	Asn	Tyr
		50				55					60				
Tyr	Trp	Ser	Ala	Ser	Glu	Cys	Met	Gln	Asp	Phe	Asn	Thr	Met	Phe	Thr
65					70					75					80
Asn	Cys	Tyr	Ile	Tyr	Asn	Lys	Pro	Thr	Asp	Asp	Ile	Val	Leu	Met	Ala
				85					90					95	
Gln	Ala	Leu	Glu	Lys	Ile	Phe	Leu	Gln	Lys	Val	Ala	Gln	Met	Pro	
			100					105					110		

<210> 21  
 <211> 111  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 21

Arg	Pro	Gly	Arg	Asn	Thr	Asn	Gln	Leu	Gln	Tyr	Leu	Ile	Lys	Thr	Val
1				5					10					15	
Met	Lys	Val	Ile	Trp	Lys	His	His	Phe	Ser	Trp	Pro	Phe	Gln	Gln	Pro
			20					25					30		
Val	Asp	Ala	Lys	Lys	Leu	Asn	Leu	Pro	Asp	Tyr	His	Lys	Ile	Ile	Lys
			35				40					45			
Gln	Pro	Met	Asp	Met	Gly	Thr	Ile	Lys	Lys	Arg	Leu	Glu	Asn	Asn	Tyr
		50				55					60				
Tyr	Trp	Ser	Ala	Lys	Glu	Thr	Ile	Gln	Asp	Phe	Asn	Thr	Met	Phe	Asn
65					70					75					80
Asn	Cys	Tyr	Val	Tyr	Asn	Lys	Pro	Gly	Glu	Asp	Val	Val	Val	Met	Ala
				85					90					95	
Gln	Thr	Leu	Glu	Lys	Val	Phe	Leu	Gln	Lys	Ile	Glu	Ser	Met	Pro	
			100					105					110		

<210> 22  
 <211> 109

<212> PRT  
<213> *Saccharomyces cerevisiae*

<400> 22

Asn Pro Ile Pro Lys His Gln Gln Lys His Ala Leu Leu Ala Ile Lys  
1 5 10 15  
Ala Val Lys Arg Leu Lys Asp Ala Arg Pro Phe Leu Gln Pro Val Asp  
20 25 30  
Pro Val Lys Leu Asp Ile Pro Phe Tyr Phe Asn Tyr Ile Lys Arg Pro  
35 40 45  
Met Asp Leu Ser Thr Ile Glu Arg Lys Leu Asn Val Gly Ala Tyr Glu  
50 55 60  
Val Pro Glu Gln Ile Thr Glu Asp Phe Asn Leu Met Val Asn Asn Ser  
65 70 75 80  
Ile Lys Phe Asn Gly Pro Asn Ala Gly Ile Ser Gln Met Ala Arg Asn  
85 90 95  
Ile Gln Ala Ser Phe Glu Lys His Met Leu Asn Met Pro  
100 105

<210> 23  
<211> 113  
<212> PRT  
<213> *Homo sapiens*

<400> 23

Lys Lys Gly Lys Leu Ser Glu Gln Leu Lys His Cys Asn Gly Ile Leu  
1 5 10 15  
Lys Glu Leu Leu Ser Lys Lys His Ala Ala Tyr Ala Trp Pro Phe Tyr  
20 25 30  
Lys Pro Val Asp Ala Ser Ala Leu Gly Leu His Asp Tyr His Asp Ile  
35 40 45  
Ile Lys His Pro Met Asp Leu Ser Thr Val Lys Arg Lys Met Glu Asn  
50 55 60  
Arg Asp Tyr Arg Asp Ala Gln Glu Phe Ala Ala Asp Val Arg Leu Met  
65 70 75 80  
Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Asp Val Val Ala  
85 90 95  
Met Ala Arg Lys Leu Gln Asp Val Phe Glu Phe Arg Tyr Ala Lys Met  
100 105 110  
Pro

<210> 24  
<211> 113

<212> PRT  
 <213> Homo sapiens  
 <400> 24

Lys	Lys	Gly	Lys	Leu	Ser	Glu	His	Leu	Arg	Tyr	Cys	Asp	Ser	Ile	Leu
1				5					10					15	
Arg	Glu	Met	Leu	Ser	Lys	Lys	His	Ala	Ala	Tyr	Ala	Trp	Pro	Phe	Tyr
			20					25					30		
Lys	Pro	Val	Asp	Ala	Glu	Ala	Leu	Glu	Leu	His	Asp	Tyr	His	Asp	Ile
		35					40					45			
Ile	Lys	His	Pro	Met	Asp	Leu	Ser	Thr	Val	Lys	Arg	Lys	Met	Asp	Gly
	50					55					60				
Arg	Glu	Tyr	Pro	Asp	Ala	Gln	Gly	Phe	Ala	Ala	Asp	Val	Arg	Leu	Met
65					70					75				80	
Phe	Ser	Asn	Cys	Tyr	Lys	Tyr	Asn	Pro	Pro	Asp	His	Glu	Val	Val	Ala
			85						90					95	
Met	Ala	Arg	Lys	Leu	Gln	Asp	Val	Phe	Glu	Met	Arg	Phe	Ala	Lys	Met
			100					105					110		

Pro

<210> 25  
 <211> 113  
 <212> PRT  
 <213> Drosophila melanogaster  
 <400> 25

Asn	Lys	Glu	Lys	Leu	Ser	Asp	Ala	Leu	Lys	Ser	Cys	Asn	Glu	Ile	Leu
1				5					10					15	
Lys	Glu	Leu	Phe	Ser	Lys	Lys	His	Ser	Gly	Tyr	Ala	Trp	Pro	Phe	Tyr
			20					25					30		
Lys	Pro	Val	Asp	Ala	Glu	Met	Leu	Gly	Leu	His	Asp	Tyr	His	Asp	Ile
		35					40					45			
Ile	Lys	Lys	Pro	Met	Asp	Leu	Gly	Thr	Val	Lys	Arg	Lys	Met	Asp	Asn
	50					55					60				
Arg	Glu	Tyr	Lys	Ser	Ala	Pro	Glu	Phe	Ala	Ala	Asp	Val	Arg	Leu	Ile
65					70					75				80	
Phe	Thr	Asn	Cys	Tyr	Lys	Tyr	Asn	Pro	Pro	Asp	His	Asp	Val	Val	Ala
			85						90					95	
Met	Gly	Arg	Lys	Leu	Gln	Asp	Val	Phe	Glu	Met	Arg	Tyr	Ala	Asn	Ile
			100					105					110		

Pro

<210> 26

<211> 113  
 <212> PRT  
 <213> *Saccharomyces cerevisiae*

<400> 26

Lys Ser Lys Arg Leu Gln Gln Ala Met Lys Phe Cys Gln Ser Val Leu  
 1 5 10 15  
 Lys Glu Leu Met Ala Lys Lys His Ala Ser Tyr Asn Tyr Pro Phe Leu  
 20 25 30  
 Glu Pro Val Asp Pro Val Ser Met Asn Leu Pro Thr Tyr Phe Asp Tyr  
 35 40 45  
 Val Lys Glu Pro Met Asp Leu Gly Thr Ile Ala Lys Lys Leu Asn Asp  
 50 55 60  
 Trp Gln Tyr Gln Thr Met Glu Asp Phe Glu Arg Glu Val Arg Leu Val  
 65 70 75 80  
 Phe Lys Asn Cys Tyr Thr Phe Asn Pro Asp Gly Thr Ile Val Asn Met  
 85 90 95  
 Met Gly His Arg Leu Glu Glu Val Phe Asn Ser Lys Trp Ala Asp Arg  
 100 105 110

Pro

<210> 27  
 <211> 108  
 <212> PRT  
 <213> *Homo sapiens*

<400> 27

Met Glu Met Gln Leu Thr Pro Phe Leu Ile Leu Leu Arg Lys Thr Leu  
 1 5 10 15  
 Glu Gln Leu Gln Glu Lys Asp Thr Gly Asn Ile Phe Ser Glu Pro Val  
 20 25 30  
 Pro Leu Ser Glu Val Pro Asp Tyr Leu Asp His Ile Lys Lys Pro Met  
 35 40 45  
 Asp Phe Phe Thr Met Lys Gln Asn Leu Glu Ala Tyr Arg Tyr Leu Asn  
 50 55 60  
 Phe Asp Asp Phe Glu Glu Asp Phe Asn Leu Ile Val Ser Asn Cys Leu  
 65 70 75 80  
 Lys Tyr Asn Ala Lys Asp Thr Ile Phe Tyr Arg Ala Ala Val Arg Leu  
 85 90 95  
 Arg Glu Gln Gly Gly Ala Val Val Arg Gln Ala Arg  
 100 105

<210> 28  
 <211> 113



<212> PRT  
 <213> Homo sapiens  
 <400> 28

Ser Glu Asp Gln Glu Ala Ile Gln Ala Gln Lys Ile Trp Lys Lys Ala  
 1 5 10 15  
 Ile Met Leu Val Trp Arg Ala Ala Ala Asn His Arg Tyr Ala Asn Val  
 20 25 30  
 Phe Leu Gln Pro Val Thr Asp Asp Ile Ala Pro Gly Tyr His Ser Ile  
 35 40 45  
 Val Gln Arg Pro Met Asp Leu Ser Thr Ile Lys Lys Asn Ile Glu Asn  
 50 55 60  
 Gly Leu Ile Arg Ser Thr Ala Glu Phe Gln Arg Asp Ile Met Leu Met  
 65 70 75 80  
 Phe Gln Asn Ala Val Met Tyr Asn Ser Ser Asp His Asp Val Tyr His  
 85 90 95  
 Met Ala Val Glu Met Gln Arg Asp Val Leu Glu Gln Ile Gln Gln Phe  
 100 105 110  
 Leu

<210> 29  
 <211> 106  
 <212> PRT  
 <213> Gallus gallus  
 <400> 29

Asn Leu Pro Thr Val Asp Pro Ile Ala Val Cys His Glu Leu Tyr Asn  
 1 5 10 15  
 Thr Ile Arg Asp Tyr Lys Asp Glu Gln Gly Arg Leu Leu Cys Glu Leu  
 20 25 30  
 Phe Ile Arg Ala Pro Lys Arg Arg Asn Gln Pro Asp Tyr Tyr Glu Val  
 35 40 45  
 Val Ser Gln Pro Ile Asp Leu Met Lys Ile Gln Gln Lys Leu Lys Met  
 50 55 60  
 Glu Glu Tyr Asp Asp Val Asn Val Leu Thr Ala Asp Phe Gln Leu Leu  
 65 70 75 80  
 Phe Asn Asn Ala Lys Ala Tyr Tyr Lys Pro Asp Ser Pro Glu Tyr Lys  
 85 90 95  
 Ala Ala Cys Lys Leu Trp Glu Leu Tyr Leu  
 100 105

<210> 30  
 <211> 112

<212> PRT  
<213> Gallus gallus

<400> 30

Ser Ser Pro Gly Tyr Leu Lys Glu Ile Leu Glu Gln Leu Leu Glu Ala  
1 5 10 15  
Val Ala Val Ala Thr Asn Pro Ser Gly Arg Leu Ile Ser Glu Leu Phe  
20 25 30  
Gln Lys Leu Pro Ser Lys Val Gln Tyr Pro Asp Tyr Tyr Ala Ile Ile  
35 40 45  
Lys Glu Pro Ile Asp Leu Lys Thr Ile Ala Gln Arg Ile Gln Asn Gly  
50 55 60  
Thr Tyr Lys Ser Ile His Ala Met Ala Lys Asp Ile Asp Leu Leu Ala  
65 70 75 80  
Lys Asn Ala Lys Thr Tyr Asn Glu Pro Gly Ser Gln Val Phe Lys Asp  
85 90 95  
Ala Asn Ala Ile Lys Lys Ile Phe Asn Met Lys Lys Ala Glu Ile Glu  
100 105 110

<210> 31  
<211> 112  
<212> PRT  
<213> Gallus gallus

<400> 31

Thr Ser Phe Met Asp Thr Ser Asn Pro Leu Tyr Gln Leu Tyr Asp Thr  
1 5 10 15  
Val Arg Ser Cys Arg Asn Asn Gln Gly Gln Leu Ile Ser Glu Pro Phe  
20 25 30  
Phe Gln Leu Pro Ser Lys Lys Lys Tyr Pro Asp Tyr Tyr Gln Gln Ile  
35 40 45  
Lys Thr Pro Ile Ser Leu Gln Gln Ile Arg Ala Lys Leu Lys Asn His  
50 55 60  
Glu Tyr Glu Thr Leu Asp Gln Leu Glu Ala Asp Leu Asn Leu Met Phe  
65 70 75 80  
Glu Asn Ala Lys Arg Tyr Asn Val Pro Asn Ser Ala Ile Tyr Lys Arg  
85 90 95  
Val Leu Lys Met Gln Gln Val Met Gln Ala Lys Lys Lys Glu Leu Ala  
100 105 110

<210> 32  
<211> 113  
<212> PRT  
<213> Gallus gallus

<400> 32

Ser Lys Lys Asn Met Arg Lys Gln Arg Met Lys Ile Leu Tyr Asn Ala  
1 5 10 15  
Val Leu Glu Ala Arg Glu Ser Gly Thr Gln Arg Arg Leu Cys Asp Leu  
20 25 30  
Phe Met Val Lys Pro Ser Lys Lys Asp Tyr Pro Asp Tyr Tyr Lys Ile  
35 40 45  
Ile Leu Glu Pro Met Asp Leu Lys Met Ile Glu His Asn Ile Arg Asn  
50 55 60  
Asp Lys Tyr Val Gly Glu Glu Ala Met Ile Asp Asp Met Lys Leu Met  
65 70 75 80  
Phe Arg Asn Ala Arg His Tyr Asn Glu Glu Gly Ser Gln Val Tyr Asn  
85 90 95  
Asp Ala His Met Leu Glu Lys Ile Leu Lys Glu Lys Arg Lys Glu Leu  
100 105 110

Gly

<210> 33

<211> 115

<212> PRT

<213> Gallus gallus

<400> 33

Lys Lys Ser Lys Tyr Met Thr Pro Met Gln Gln Lys Leu Asn Glu Val  
1 5 10 15  
Tyr Glu Ala Val Lys Asn Tyr Thr Asp Lys Arg Gly Arg Arg Leu Ser  
20 25 30  
Ala Ile Phe Leu Arg Leu Pro Ser Arg Ser Glu Leu Pro Asp Tyr Tyr  
35 40 45  
Ile Thr Ile Lys Lys Pro Val Asp Met Glu Lys Ile Arg Ser His Met  
50 55 60  
Met Ala Asn Lys Tyr Gln Asp Ile Asp Ser Met Val Glu Asp Phe Val  
65 70 75 80  
Met Met Phe Asn Asn Ala Cys Thr Tyr Asn Glu Pro Glu Ser Leu Ile  
85 90 95  
Tyr Lys Asp Ala Leu Val Leu His Lys Val Leu Leu Glu Thr Arg Arg  
100 105 110

Glu Ile Glu  
115

<210> 34

<211> 112

<212> PRT  
 <213> Schizosaccharomyces pombe  
 <400> 34

His	Asn	Ala	Pro	Phe	Asp	Lys	Thr	Lys	Phe	Asp	Glu	Val	Leu	Glu	Ala
1				5					10					15	
Leu	Val	Gly	Leu	Lys	Asp	Asn	Glu	Gly	Asn	Pro	Phe	Asp	Asp	Ile	Phe
			20					25					30		
Glu	Glu	Leu	Pro	Ser	Lys	Arg	Tyr	Phe	Pro	Asp	Tyr	Tyr	Gln	Ile	Ile
		35					40					45			
Gln	Lys	Pro	Ile	Cys	Tyr	Lys	Met	Met	Arg	Asn	Lys	Ala	Lys	Thr	Gly
	50						55				60				
Lys	Tyr	Leu	Ser	Met	Gly	Asp	Phe	Tyr	Asp	Asp	Ile	Arg	Leu	Met	Val
65					70					75				80	
Ser	Asn	Ala	Gln	Thr	Tyr	Asn	Met	Pro	Gly	Ser	Leu	Val	Tyr	Glu	Cys
				85					90					95	
Ser	Val	Leu	Ile	Ala	Asn	Thr	Ala	Asn	Ser	Leu	Glu	Ser	Lys	Asp	Gly
			100					105					110		

<210> 35  
 <211> 113  
 <212> PRT  
 <213> Schizosaccharomyces pombe  
 <400> 35

Gly	Thr	Asn	Glu	Ile	Asp	Val	Pro	Lys	Val	Ile	Gln	Asn	Ile	Leu	Asp
1				5					10					15	
Ala	Leu	His	Glu	Glu	Lys	Asp	Glu	Gln	Gly	Arg	Phe	Leu	Ile	Asp	Ile
			20					25					30		
Phe	Ile	Asp	Leu	Pro	Ser	Lys	Arg	Leu	Tyr	Pro	Asp	Tyr	Tyr	Glu	Ile
		35					40					45			
Ile	Lys	Ser	Pro	Met	Thr	Ile	Lys	Met	Leu	Glu	Lys	Arg	Phe	Lys	Lys
	50					55					60				
Gly	Glu	Tyr	Thr	Thr	Leu	Glu	Ser	Phe	Val	Lys	Asp	Leu	Asn	Gln	Met
65					70					75				80	
Phe	Ile	Asn	Ala	Lys	Thr	Tyr	Asn	Ala	Pro	Gly	Ser	Phe	Val	Tyr	Glu
			85						90					95	
Asp	Ala	Glu	Lys	Leu	Ser	Gln	Leu	Ser	Ser	Ser	Leu	Ile	Ser	Ser	Phe
			100					105					110		

Ser

<210> 36  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

<400> 36

Gly Thr Asn Glu Ile Asp Val Pro Lys Val Ile Gln Asn Ile Leu Asp  
1 5 10 15  
Ala Leu His Glu Glu Lys Asp Glu Gln Gly Arg Phe Leu Ile Asp Ile  
20 25 30  
Phe Ile Asp Leu Pro Ser Lys Arg Leu Tyr Pro Asp Tyr Tyr Glu Ile  
35 40 45  
Ile Lys Ser Pro Met Thr Ile Lys Met Leu Glu Lys Arg Phe Lys Lys  
50 55 60  
Gly Glu Tyr Thr Thr Leu Glu Ser Phe Val Lys Asp Leu Asn Gln Met  
65 70 75 80  
Phe Ile Asn Ala Lys Thr Tyr Asn Ala Pro Gly Ser Phe Val Tyr Glu  
85 90 95  
Asp Ala Glu Lys Leu Ser Gln Leu Ser Ser Ser Leu Ile Ser Ser Phe  
100 105 110

Ser

<210> 37

<211> 114

<212> PRT

<213> Homo sapiens

<400> 37

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp  
1 5 10 15  
Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu  
20 25 30  
Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu  
35 40 45  
Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg  
50 55 60  
Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu  
65 70 75 80  
Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Leu Ile Tyr  
85 90 95  
Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys  
100 105 110

Ile Glu

<210> 38

<211> 113

<212> PRT

<213> Gallus gallus

<400> 38

Ser Pro Asn Pro Pro Lys Leu Thr Lys Gln Met Asn Ala Ile Ile Asp  
1 5 10 15  
Thr Val Ile Asn Tyr Lys Asp Ser Ser Gly Arg Gln Leu Ser Glu Val  
20 25 30  
Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu Leu  
35 40 45  
Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg Asn  
50 55 60  
His Lys Tyr Arg Ser Leu Gly Asp Leu Glu Lys Asp Val Met Leu Leu  
65 70 75 80  
Cys His Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Gln Ile Tyr Glu  
85 90 95  
Asp Ser Ile Val Leu Gln Ser Val Phe Lys Ser Ala Arg Gln Lys Ile  
100 105 110

Ala

<210> 39

<211> 114

<212> PRT

<213> Gallus gallus

<400> 39

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp  
1 5 10 15  
Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu  
20 25 30  
Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu  
35 40 45  
Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg  
50 55 60  
Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu  
65 70 75 80  
Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Val Ser Leu Ile Tyr  
85 90 95  
Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys  
100 105 110

Ile Glu

<210> 40

<211> 105

<212> PRT

<213> Homo sapiens

<400> 40

Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu  
1 5 10 15

Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr  
20 25 30

Asp Ser Thr Phe Ser Leu Asp Gln Pro Gly Gly Thr Leu Asp Leu Thr  
35 40 45

Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser  
50 55 60

Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn  
65 70 75 80

Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln  
85 90 95

Arg Phe Phe Glu Thr Arg Met Asn Glu  
100 105

<210> 41

<211> 105

<212> PRT

<213> Mus musculus

<400> 41

Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu  
1 5 10 15

Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr  
20 25 30

Asp Ser Thr Phe Ser Met Glu Gln Pro Gly Gly Thr Leu Asp Leu Thr  
35 40 45

Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser  
50 55 60

Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn  
65 70 75 80

Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln  
85 90 95

Arg Phe Phe Glu Thr Arg Met Asn Asp  
100 105

<210> 42

<211> 108

<212> PRT

<213> Mus musculus

<400> 42

Thr Lys Leu Thr Pro Ile Asp Lys Arg Lys Cys Glu Arg Leu Leu Leu  
1 5 10 15  
Phe Leu Tyr Cys His Glu Met Ser Leu Ala Phe Gln Asp Pro Val Pro  
20 25 30  
Leu Thr Val Pro Asp Tyr Tyr Lys Ile Ile Lys Asn Pro Met Asp Leu  
35 40 45  
Ser Thr Ile Lys Lys Arg Leu Gln Glu Asp Tyr Cys Met Tyr Thr Lys  
50 55 60  
Pro Glu Asp Phe Val Ala Asp Phe Arg Leu Ile Phe Gln Asn Cys Ala  
65 70 75 80  
Glu Phe Asn Glu Pro Asp Ser Glu Val Ala Asn Ala Gly Ile Lys Leu  
85 90 95  
Glu Ser Tyr Phe Glu Glu Leu Leu Lys Asn Leu Tyr  
100 105

<210> 43

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic bromodomain peptide

<220>

<221> Xaa

<222> (1)..(1)

<223> Xaa can be any single amino acid

<220>

<221> Xaa

<222> (2)..(2)

<223> Xaa can be any single amino acid

<220>

<221> Xaa

<222> (4)..(6)

<223> Xaa is a maximum of three amino acids. Each of these can be any amino acid. One may be missing.

<220>

<221> Xaa

<222> (6)..(13)

<223> Xaa is a maximum of eight amino acids. Each of these can be any amino acid. One, two, or three may be missing.

<220>

<221> Xaa

<222> (7)..(7)

<223> Xaa is a single amino acid that can be Pro, Lys, or His.



<220>  
 <221> Xaa  
 <222> (8)..(8)  
 <223> Xaa is a single amino acid that can be any amino acid.

<220>  
 <221> Xaa  
 <222> (10)..(10)  
 <223> Xaa is a single amino acid that can be a Tyr, Phe, or His.

<220>  
 <221> Xaa  
 <222> (11)..(15)  
 <223> Xaa is five amino acids. Each of these can be any amino acid.

<220>  
 <221> Xaa  
 <222> (13)..(13)  
 <223> Xaa is a single amino acid that can be Met, Ile, or Val.

<400> 43  
 Xaa Xaa Phe Xaa Pro Xaa Xaa Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Asp  
 1 5 10 15

<210> 44  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic bromodomain peptide

<400> 44  
 Trp Pro Phe Met Glu Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr Tyr  
 1 5 10 15  
 Glu Val Ile Arg  
 20